SPECIFICATION AMENDMENTS

Replace the paragraph beginning at page 1, line 6 with:

The present invention generally relates to a photoelectric encoder, and more particularly, relates to a photoelectric encoder employing a shifting encoder scale, which is used for measurement of ~~a~~ position and for detecting ~~a~~ movement amount of a moving object in various machine tools, semiconductor manufacturing devices, and the like.

Replace the paragraph beginning at page 1, line 14 with:

In a conventional photoelectric encoder, ~~light-receiving~~ light-detecting elements are arranged to have different four phases, i.e., A phase, B phase, /A phase and /B phase with a phase difference of P/4 with respect to an input signal pitch P, and each of the ~~light-receiving~~ light-detecting elements has a width of P/2. The ~~light-receiving~~ light-detecting elements are arranged in parallel with respect to a movement direction of a shifting scale, and four ~~light-receiving~~ light-detecting elements having respectively different phases are combined into one set and a plurality of sets of the ~~light-receiving~~ light-detecting elements are arranged in the movement direction of the shifting scale, so that a shift amount of the shifting scale is detected. Thus, a movement amount or a relative position of a moving object is detected, as corresponding to the shift amount of the scale. In this arrangement, a light source is positioned on a side opposite to the scale side, and ~~a~~ duty ratio of the scale is set to 50%. See, for example, Paragraph 0008, Fig. 2 of Patent Document 1: Japanese Patent Laid-open Publication No. 8-201117.

Replace the paragraph beginning at page 2, line 8 with:

In another conventional example of a photoelectric encoder, ~~light-receiving~~ light-detecting elements are specified for A phase, B phase, /A phase and /B phase, each having a phase difference of P/4 with respect to an input signal pitch P, and the ~~light-receiving~~ light-detecting elements are arranged with an interval of 3P/4 with respect to a scale shifting direction, so that a shift amount (i.e., movement amount) of the scale is detected. See, for example, Paragraphs 0067 to 0069, Fig. 10 of Patent Document 2: Japanese Patent Laid-open Publication No. 2002-236033.

Replace the paragraph beginning at page 3, line 4 with:

However, in the above-mentioned conventional photoelectric encoder, since the pitch is too narrow, it is not possible to provide a space for forming a cross-talk preventive portion, resulting in disadvantages such that a light signal deflects and reach the ~~light-receiving~~ light-detecting elements and that a cross-talk may be undesirably generated between adjacent ~~light-receiving~~ light-detecting elements. ~~In order for~~ For preventing such ~~a~~ cross-talk, there may be considered a method in which the width of each ~~light-receiving~~ light-detecting element is made smaller than P/2. However, if the width of the ~~light-receiving~~ light-detecting element is reduced, the signal output thereof is undesirably reduced.

Replace the paragraph beginning at page 3, line 16 with:

Moreover, the conventional photoelectric encoder has a complex wiring structure with wires mutually overlapping ~~on~~ at some places, and therefore manufacturing of a ~~light-receiving~~ light-detecting element array is made difficult.

Replace the paragraph beginning at page 6, line 7 with:

Fig. 2 is an enlarged view of a ~~light-receiving~~ light-detecting element array arranging ~~light-receiving~~ light-detecting elements of the photoelectric encoder shown in Fig. 1;

Replace the paragraph beginning at page 6, line 10 with:

Fig. 3 is an enlarged view of a ~~light-receiving~~ light-detecting element array arranging ~~light-receiving~~ light-detecting elements of a photoelectric encoder according to an embodiment 2 of the present invention;

Replace the paragraph beginning at page 6, line 14 with:

Fig. 4 is an enlarged view of a ~~light-receiving~~ light-detecting element array arranging ~~light-receiving~~ light-detecting elements of a photoelectric encoder according to an embodiment 3 of the present invention;

Replace the paragraph beginning at page 6, line 20 with:

Fig. 6 is a schematic perspective view showing an example of a ~~light-receiving~~ light-detecting element group.